WE CLAIM:

1.   A data processing system, comprising

a data compression decoder arranged in operation to decode first encoded data to produce first uncompressed data, said first uncompressed data being representative

5   of first source data from which the first encoded data was produced in accordance with a compression encoding algorithm, said data compression decoder also producingfirst compression parameter data representative of decisions made by said compression encoding algorithm when said first source data was compression encoded,

a communications processor operable

10   to store said first parameter data in a data store, and

to communicate said first uncompressed data, second uncompressed data, and said first parameter data on request via a data communications apparatus to one of a data processor or a data compression encoder, said data compression encoder being operable to compression encode a combination of said first and second uncompressed

15   data in accordance with said compression encoding algorithm using said first parameter data, wherein said data communications apparatus is operable to communicate said first and second uncompressed data, and said first parameter data separately via a communications channel provided by said data communications apparatus.

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2.   A data processing system as claimed in Claim 1, wherein said second uncompressed data is generated by said data compression decoder from second encoded data, said data compression decoder also producing second compression parameter data representative of decisions made by said compression encoding

25   algorithm when said second source data was compression encoded, said communications processor being operable to store said second parameter data in said data store and to communicate said second parameter data on request to one of said data processor or said data compression encoder.

30   3.   A data processing system as claimed in Claims 1, wherein at least one of said first and second parameter data are communicated on said communications

channel in a temporal period which is separate to a period when said uncompressed data is communicated.

4. A data processing system as claimed in Claim 3, wherein said temporal period in which said first and second parameter data are communicated is a period of inactivity of said uncompressed data with respect to time.

5. A data processing system as claimed in Claim 4, wherein said first and second uncompressed data is representative of video signals and said period of inactivity in which said first and second parameter data are communicated is a blanking period between fields of said video signals.

6. A data processing system as claimed in Claim 5, wherein said blanking period between fields is formed as part of an H-Ancillary space of a Serial Digital Interface packet or Serial Data Transport Interface, said uncompressed data being communicated in the payload area of said packet.

7. A data processing system as claimed in Claim 4, wherein said period of inactivity includes header information giving an address associated with one of said data processor, and said data compression decoder and said compression encoder, said communications apparatus being arranged in operation to communicate said parameter data to the associated address.

8. A data processing system as claimed in Claim 7, wherein said communications apparatus has a router which operates
   - to identify said address from said header information,
   - to determine with which of said data processor, said data compression encoder, and said data compression decoder said address is associated, and
   - to communicate said parameter data to the associated address.

9.   A data processing system as claimed in Claim 1, wherein one of said data processor and said compression encoder is arranged in operation

- to communicate to said communications processor a request to receive said parameter data,

5   - to provide a return address to which said at least one of said first and second parameter data is to be sent, and said communications processor may be arranged in operation to retrieve said parameter data from said data store and to communicate using said communications apparatus said parameter data to said return address.

10   10.   A data processing system as claimed in Claim 2, wherein said data store is a local data store coupled to said data compression decoder, and said data compression decoder is arranged in operation to store said parameter data when produced in said data store, and said communications processor is arranged in operation

15   - to receive said request for at least one of said first and second parameter data from one of said at least one data processor and said data compression encoder,

- to retrieve said at least one of said first and second parameter data from said data store, and

- to communicate said at least one of said first and second parameter data to
20   one of said at least one data processor and said data compression encoder in response to said request.

11.   A data processing system as claimed in Claim 10, wherein said at least one data processor and said data compression encoder each have a communications
25   processor having a pre-determined address, said communications processor being arranged in operation

- to generate a retrieval message representative of said request for said at least one of said first and second parameter data, and

- to communicate said retrieval message to said data compression decoder with
30   said pre-determined address.

12.   A data processing system as claimed in Claim 1, wherein said data compression encoder and decoder operate in accordance with an MPEG type compression algorithm such as MPEG-2 or the like.

5   13.   A data processing system as claimed in Claim 12, wherein said first and second parameter data are the quantization levels, the discrete cosine transform type, vector related data and the like.

14.   A data processing system as claimed in Claim 2, wherein said data

10   compression decoder comprises first and second data compression decoders operable to produce said first and second uncompressed data and said first and second parameter data by decoding first and second encoded data respectively.

15.   A data system processing system as claimed in Claim 2, wherein said

15   first and said second parameter data provide the encoding decisions which were used when all of said first and second source data were compression encoded to produce said first and second compression encoded data.

16.   A data processing system as claimed in Claim 15, wherein said first and

20   said second encoded data and said first and second uncompressed data are representative of first and second video images respectively, said first and said second parameter data providing the encoding decisions for all of said first and said second video images respectively.

25   17.   A method of processing data comprising the steps of
       - data compression decoding first encoded data to produce first uncompressed data representative of first source data from which said first encoded data was produced in accordance with a compression encoding algorithm,
       - producing first parameter data representative of decisions made by said

30   compression encoding algorithm when said first source data was compression encoded,
       - storing said first parameter data in a data store,

- separately communicating said first uncompressed data, second uncompressed data, and said first parameter data on request, via a communications channel, to at least one of a data processor or a compression encoder, and

- compression encoding a combination of said first uncompressed data and said

5　second uncompressed data with a data compression encoder which operates in accordance with said compression encoding algorithm using said first parameter data.

18.　A method as claimed in Claim 17, comprising the steps of

- data compression decoding second encoded data to produce said second

10　uncompressed data representative of second source data from which said second encoded data was produced in accordance with a compression encoding algorithm,

- producing second parameter data representative of decisions made by said compression encoding algorithm when said second source data was compression encoded,

15　　　　　- storing said second parameter data in a data store,

- separately communicating said second uncompressed data, on request, via a communications channel, to at least one of a data processor or a compression encoder, wherein the step of compression encoding comprises

- compression encoding said first uncompressed data and said second

20　uncompressed data with a data compression encoder which operates in accordance with said compression encoding algorithm using said first and second parameter data.

19.　A method as claimed in Claim 18, comprising the steps of

- processing at least one of said first and second uncompressed data using a

25　data processor to produce processed data adapted from said at least one of said first and second uncompressed data, and

- compression encoding either said at least one of said first and second uncompressed data or said processed data using said first and said second parameter data.

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20.   A method as claimed in Claim 18, wherein the step of separately communicating said first and second parameter data and said first and second uncompressed data, comprises the step of

- communicating said first and second parameter data on said communications
5   channel in a temporal period which is separate to a period when said first and second uncompressed data is communicated.

21.   A method as claimed in Claim 20, wherein said temporal period in which said at least of said first and second parameter data are communicated is a
10   period of inactivity of said uncompressed data with respect to time.

22.   A method as claimed in Claim 21, wherein the first and second uncompressed data is representative of video signals and said period of inactivity in which said first and second parameter data are communicated is a blanking period
15   between fields of said video signals.

23.   A method as claimed in Claim 22, wherein said blanking period between fields is formed as part of an H-Ancillary space of a Serial Digital Interface or Serial Data Transport Interface packet, said uncompressed data being communicated in
20   the payload area of said packet.

24.   A method as claimed in Claim 18, wherein the step of communicating said first and second parameter data on said communications channels comprises the steps of
25   - communicating in said period of inactivity header information giving an address associated with a destination of one of said first and second parameter data,
            - identifying said address from said header information,
            - determining said destination of said first and second parameter data from said address, and
30   - communicating said first and second parameter data to the associated address.

25.   A method as claimed in Claim 18, wherein the step of communicating said first and second parameter data on request, comprises the steps of

- communicating a request to receive at least one of said first and second parameter data,

5   - providing a return address to which said at least one of said first and second parameter data are to be sent,

- retrieving said at least one of said first and second parameter data from said data store, and communicating said at least one of said first and second parameter data to said return address.

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26.   A method as claimed in Claim 25, wherein the step of retrieving and communicating said at least one of first and second parameter data comprises the steps of

- receiving said request for said at least one of said first and second parameter

15   data from one of said at least one data processor and said data compression encoder,

- retrieving at least one of said first and second parameter data from said data store, and

- communicating said at least one of said first and said second parameter data to said at least one data processor or said data compression encoder in response to said

20   request.

27.   A method of processing data as claimed in Claim 24, wherein said data processor and said data compression encoder each have a pre-determined address, and the step of receiving said request comprises the steps of

25   - generating a retrieval message representative of said request for said at least one of said first and said second parameter data, and

- communicating said retrieval message to said data compression decoder with said pre-determined address.

28.   A method of processing data as claimed in Claim 17, wherein said data compression encoding algorithm is an MPEG type compression algorithm such as MPEG-2 or the like.

5   29.   A method of processing data as claimed in Claim 28, wherein the parameter data are the quantization levels, the discrete cosine transform type, vector related data and the like.

30.   A method of processing data as claimed in Claim 18, wherein said first
10   and said second parameter data provide the encoding decisions which were used when all of said first and second source data were compression encoded to produce said first and second compression encoded data.

31.   A data processing system as claimed in Claim 30, wherein said first and
15   said second encoded data and said first and second uncompressed data are representative of first and second video images respectively, said first and said second parameter data providing the encoding decisions for all of said first and said second video images respectively.

20   32.   A computer program providing computer executable instructions, which when loaded onto a computer configures the computer to operate as a data processing system as claimed in Claim 1.

33.   A computer program providing computer executable instructions, which
25   when loaded on to a computer causes the computer to perform the method according to Claim 17.

34.   A computer program product having a computer readable medium recorded thereon information signals representative of the computer program claimed
30   in Claim 32.